

Claims

1. A process for indexing files residing on a computer, comprising the steps of:

- executing one or more periodic backup operations on the files, said backup operation
- 5 including the step of scanning the files;
- using said scanning operation to derive a set of itemized indexes for subsequent use in obtaining direct access to said files.

2. An indexing process as claimed in claim 1 wherein both text processing files and compound files

10 are analyzed and indexed.

3. An indexing process as claimed in claim 1 implemented in a centralized environment where a server is associated with a database, said database adapted to store backup files and wherein said server substantially simultaneously carries out the backup and the indexing of the files.

4. An indexing process as claimed in claim 3 wherein said server indexes files residing on a plurality of computers attached to, or constituting a network for the purpose of generating a centralized table of indexes loaded on said server.

5. An indexing process as claimed in claim 4 wherein access rights are defined for each file including at least one indexing right that is used for controlling the indexing process of the files within said centralized table of indexes.

6. An indexing process as claimed in claim 5 wherein the at least one indexing right includes: a first indexing attribute which authorizes the indexing of a given file within the centralized index; and a second indexing attribute defining selective access to that file.

7. An indexing process as claimed in claim 6 wherein after completion of the backup of files residing on a first machine, said server transmits to the first machine a local table of indexes representative of the different documents stored that first machine.

8. An indexing process as claimed in claim 3 wherein transfer of the files which are to be backed up uses the Hyper Text Transfer (H.T.T.P.), RCP, FTP or the like protocols.

9. An indexing process as claimed in claim 1 wherein the files correspond to system and/or user files.

10. An indexing process as claimed in claim 9 wherein the indexing is performed in relation to the user files.

11. A process for searching for a file within a set of indexed files, said files stored on a plurality of computers connected to, or constituting, a network, the files being indexed in accordance with the Indexing process as claimed in claim 6, comprising:

- initiating a search request for a given file, said request containing a set of key words or indexes;
- processing said search request by reference to a first local table of indexes stored on one of said plurality of computers in order to locate a first set of relevant files extracted from said one computer;
- processing, upon request from the user, an additional search within said centralized index loaded into said server for the purpose of obtaining any additional results corresponding to files stored on the backup database
- displaying the result of said additional search and, for each or any file having a selective access attribute, automatically generating an electronic mail to be sent to a corresponding originator of said file for the purpose of requesting access to said file.

12. An apparatus comprising program code elements for carrying out the process as claimed in claim 1.

13. A computer program product comprising computer program code stored on a computer readable medium adapted, when executed on a computer, to perform the step of claim 1.

14. A knowledge-base system comprising:

- means for regularly backing up files stored on computers connected to or constituting a network;
- means for substantially simultaneously indexing the files during the backup procedure for the purpose of creating and updating a database of backup files and documents as well as a centralized index of backed up documents.

15. A backup process for a stand-alone computer comprising:

- opening each file which is to be backed up;
- while opening said file, compiling a set of indexes characterizing said files and which will be incorporated into a table of indexes;
- closing said file upon completion of said backup and said indexing operation.

16. A computer programmed to operate in accordance with the process of claim 1.

17. A computer network adapted to operate in accordance with the process of claim 1.

18. A process for indexing files residing on a plurality of computers attached to, or constituting a network for the purpose of generating a centralized table of indexes for use in obtaining direct access to said files, the table being stored on a server associated with a database adapted to store backup files, comprising the steps of:

- executing repeated backup operations on the files, said backup operations including the step of scanning the files;

- using said scanning operation to derive a set of itemized indexes for inclusion in the centralized table of indexes, wherein said server substantially simultaneously carries out the backup and the indexing of the files.

19. An indexing process as claimed in claim 18 wherein access rights are defined for each file including at least one indexing right that is used for controlling the indexing process of the files within said centralized table of indexes.

20. An indexing process as claimed in claim 19 wherein the at least one indexing right includes: a first indexing attribute which authorizes the indexing of a given file within the centralized index; and a second indexing attribute defining selective access to that file.

21. A process for indexing files residing on a plurality of computers attached to, or constituting a network for the purpose of generating a centralized table of indexes for use in obtaining direct access to said files, the table being stored on a server associated with a database adapted to store backup files, comprising the steps of:

- executing repeated backup operations on the files, said backup operations including the step of scanning the files;

- using said scanning operation to derive a set of itemized indexes for inclusion in the centralized table of indexes, wherein said server substantially simultaneously carries out the backup and the indexing of the files, wherein access rights including at least one indexing right are defined for each file and used for controlling the indexing process of the files within said centralized table of indexes.

22. An indexing process as claimed in claim 21 wherein the at least one indexing right includes: a first indexing attribute which authorizes the indexing of a given file within the centralized index; and a second indexing attribute defining selective access to that file.

23. An apparatus comprising program code elements for:

- executing one or more periodic backup operations on files stored on a computer, said backup operation including the step of scanning the files;
- using said scanning operation to derive a set of itemized indexes for subsequent use in obtaining direct access to said files.

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24. Apparatus as claimed in claim 23 in the form of a server is associated with a database adapted to store backup files and wherein said program code elements are arranged to substantially simultaneously carry out the backup and the indexing of the files.

10 **25.** Apparatus as claimed in claim 24 wherein said program code elements are arranged to index files residing on a plurality of computers attached to, or constituting a network for the purpose of generating a centralized table of indexes stored on said server.

15 **26.** Apparatus as claimed in claim 23 wherein said program code elements operate under the control of access rights that are defined for each file including at least one indexing right.

27. Apparatus as claimed in claim 26 wherein the at least one indexing right includes: a first indexing attribute which authorizes the indexing of a given file within the centralized index; and a second indexing attribute defining selective access to that file.

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28. Apparatus as claimed in claim 24 wherein the program code elements are arranged to transmit to a computer a local table of indexes representative of the different files stored on that computer after completion of the backup of files residing on that computer.

25 **29.** A server associated with a database adapted to store backup files and comprising program code elements for indexing files residing on a plurality of computers attached to, or constituting, a network for the purpose of generating a centralized table of indexes for use in obtaining direct access to said files, said program code elements being arranged to execute repeated backup operations on the files, said backup operations including the step of scanning the files; and being arranged to use said
30 scanning operation to derive a set of itemized indexes for inclusion in the centralized table of indexes.

30. A server as claimed in claim 29 wherein said program code element operate under the control of at least one indexing right defined for each file, said indexing right including: a first indexing
35 attribute which authorizes the indexing of the file within the centralized index; and a second indexing attribute defining selective access to that file.

31. A computer program product comprising computer program code stored on a computer readable medium adapted, when executed on a computer, to

- execute one or more repeated backup operations on files stored on a computer, said backup operation including the step of scanning the files; and to

- derive using said scanning operation a set of itemized indexes for subsequent use in obtaining direct access to said files.

32. A computer program product as claimed in claim 31 for use in a server that is associated with a database adapted to store backup files and wherein said program code elements are arranged to substantially simultaneously carry out the backup and the indexing of the files.

33. A computer program product as claimed in claim 32 wherein said program code elements are arranged to index files residing on a plurality of computers attached to, or constituting a network for the purpose of generating a centralized table of indexes stored on said server.

34. A computer program product as claimed in claim 33 wherein said program code elements operate under the control of access rights that are defined for each file including at least one indexing right.

35. A computer program product as claimed in claim 34 wherein the at least one indexing right includes: a first indexing attribute which authorizes the indexing of a given file within the centralized index; and a second indexing attribute defining selective access to that file.

36. A computer program product as claimed in claim 33 wherein the program code elements are arranged to transmit to a computer a local table of indexes representative of the different files stored on that computer after completion of the backup of files residing on that computer.

37. A computer program product comprising program code element for use on a server associated with a database adapted to store backup files and for indexing files residing on a plurality of computers attached to, or constituting, a network for the purpose of generating a centralized table of indexes for use in obtaining direct access to said files, said program code elements being arranged to execute repeated backup operations on the files, said backup operations including the step of scanning the files; and being arranged to use said scanning operation to derive a set of itemized indexes for inclusion in the centralized table of indexes.

38. A computer program product as claimed in claim 37 wherein said program code elements operate under the control of at least one indexing right defined for each file, said indexing right

including: a first indexing attribute which authorizes the indexing of the file within the centralized index; and a second indexing attribute defining selective access to that file.

39. A program product for backing up files within a network of computers, comprising:

- 5 (a) computer program code stored on a computer readable medium adapted, when executed on a computer, (i) to execute one or more repeated backup operations on files stored on a computer, said backup operation including the step of scanning the files; and (ii) to derive using said scanning operation a set of itemized indexes for subsequent use in obtaining direct access to said files.
- (b) computer program code stored on a computer readable medium adapted, when executed on a
10 computer, to search for a file stored on a plurality of computers connected to, or constituting, a network within such a set of itemized indexes, by (i) initiating a search request for a given file, said request containing a set of key words or indexes, (ii) processing said search request by reference to a first local table of indexes stored on one of said plurality of computers in order to locate a first set of relevant files extracted from said one computer; (iii) processing an additional search within a
15 centralized index on a server for the purpose of obtaining any additional results corresponding to files stored on the backup database, (iv) displaying the result of said additional search.